AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An x-ray diagnostic imaging device including:

an x-ray tube for irradiating a patient with an x-ray beam;

a dose controller for controlling milliamperes (mAs) of an x-ray tube current to control radiation dose; and

a dose selection processor for calculating a target maximum patient dose based on $C(\text{patient weight} \div (\text{patient height})^2)^2$, wherein C is a constant determined based on a target required noise level.

2. (Cancelled)

3. (Currently amended) The device ~~apparatus~~ according to claim 1, further including a user input means for inputting the patient's height and weight.

4. (Currently amended) The device ~~apparatus~~ according to claim 3, wherein the dose selection processor is connected with the user input means to receive the input weight and height therefrom, the dose selection processor including:

a means for squaring the patient's height;

a means for dividing the patient's weight squared by the patient's height squared to calculate a body mass index of the patient;

a means for squaring the body mass index; and

a means for multiplying the body mass index squared by the constant.

5. (Currently amended) The device ~~apparatus~~ according to claim 4, further including:

a target required noise memory for storing the target required noise level; and

a means for converting the target required noise level into the constant.

6. (Currently amended) The device ~~apparatus~~ according to claim 1, wherein the dose selection processor controls the dose controller control the tube to produce a tube current which is proportional to the examined patient's body mass index squared.

7. (Currently amended) The device ~~apparatus~~ according to claim 6, further including:

a reconstruction processor for reconstructing examination data from the x-ray diagnostic imaging device into an image representation;

a thresholding means for thresholding the image representation for calcium to generate a calcium enhanced image representation;

a means for storing the calcium enhanced image representation; and

a means for displaying the calcium enhanced image representation.

8. (Previously presented) A method of diagnostic imaging including:

selecting a target required radiation dose of an x-ray tube in accordance with physical parameters of a patient to be examined, wherein the target required radiation dose is determined based on a body mass index for the patient and a constant selected in accordance with a targeted noise level; and

performing an x-ray diagnostic examination of the patient with an x-ray beam with the selected radiation dose.

9. (Previously presented) The method according to claim 8, wherein selecting the radiation dose includes:

calculating a tube current in milliamperes which is proportional to the body mass index squared of the patient to be examined.

10. (Original) The method according to claim 8, wherein the patient physical parameters include:

a weight and height of the examined patient.

11. (Previously presented) The method according to claim 10, further including:

squaring the patient's height;

dividing the patient's weight by the patient's height squared to generate the body mass index;

squaring the body mass index; and

multiplying the body mass index squared by the constant to calculate a tube current for the x-ray tube.

12. (Currently Amended) The method according to claim 11, wherein the constant is selected in accordance with ~~a~~ the target required noise level.

13. (Currently amended) The method according to claim 12, wherein the target required noise level is 20 HU and the constant is 0.05.

14. (Original) The method according to claim 12, further including:

setting a tube current of the x-ray tube to the product of the body mass index squared and the constant.

15. (Currently amended) The method according to claim 12, wherein the patient parameters include a patient body mass index.

16. (Previously presented) The method according to claim 15, wherein the x-ray tube dose in milliamperes of tube current is selected to be proportional to the body mass index squared.

17. (Currently amended) The method according to claim 16, further including:

reconstructing an image representation from data generated while performing ~~the~~ a diagnostic examination; and

thresholding the reconstructed image representation with a calcium threshold to generate a calcium-enhanced diagnostic image representation.

18. (Original) The method according to claim 17, further including:

comparing the calcium-enhanced image representation with prior calcium-enhanced image representations of the same patient.

19. (Currently amended) The method according to claim 18, wherein a ~~the~~ target noise level of the present calcium-enhanced image representation is the same as ~~the~~ a noise level of the prior calcium-enhanced image representations.

20. (Currently amended) A method, comprising:

obtaining patient physical parameters, including the patient's weight and height;

squaring the patient's height;

dividing the patient's weight by the patient's height squared to generate a body mass index;

squaring the body mass index;

multiplying the body mass index squared by a constant to calculate a tube current for the x-ray tube, wherein the constant is selected in accordance with a noise level;

selecting a radiation dose of an x-ray tube in accordance with the calculated tube current; and

performing an x-ray diagnostic examination of the patient with an x-ray beam based on the selected ~~the~~ radiation dose.

21. (Previously presented) The method of claim 20, wherein the noise level represents a target required noise level.